

## Remarks

The various parts of the Office Action (and other matters, if any) are discussed below under appropriate headings.

### ***Claim Objections***

Claim 6 was objected to for depending on a previously-cancelled claim. This informality has been corrected, thereby rendering moot the objection.

### ***Claim Rejections - 35 USC § 103***

The rejection of claim 1 should be withdrawn because Kucharczyk, taken alone or in combination with Howard III ('685 and '588) and Hochman fails to disclose or fairly suggest each and every element recited in claim 1.

Claim 1, as amended, recites a method for planning stimulation of hyper/hypometabolic cortical areas that includes, *inter alia*,

- determining functional anatomical patient data;
- determining structural anatomical patient data; and
- navigationally registering the functional anatomical patient data with the structural anatomical patient data such that the functional anatomical patient data are available for navigation.

Further, claim 1 recites

- detecting a position of a stimulator;
- registering and/or referencing the position of the hyper/hypometabolic cortical areas with respect to the position of the stimulator; and
- determining an optimal positioning for the stimulator on the basis of relative positional information of the hyper/hypometabolic cortical areas and the stimulator.

Kucharczyk fails to disclose or fairly suggest the combination of:

- determining functional anatomical patient data;
- determining structural anatomical patient data; and

- navigationally registering the functional anatomical patient data with the structural anatomical patient data such that the functional anatomical patient data are available for navigation.

As discussed in the present application, registering functional anatomical patient data with structural anatomical patient data such that the functional anatomical patient data are available for navigation provides advantages for planning stimulation of hyper/hypometabolic cortical areas that are not contemplated by Kucharczyk, taken alone or in combination with Howard III ('685 and '588).

In response to the Examiner's arguments on page 2 of the Office Action, it is respectfully submitted that Kucharczyk's definition of "image" at col. 12, lines 18-20<sup>1</sup>, taken together with Kucharczyk's definition of "registration" at col. 12, lines 27-30<sup>2</sup> is not sufficient to anticipate or render obvious the claimed combination of determining functional anatomical patient data; determining structural anatomical patient data; and navigationally registering the functional anatomical patient data with the structural anatomical patient data such that the functional anatomical patient data are available for navigation.

In addition to the above-discussed deficiencies, Kucharczyk fails to disclose or fairly suggest

- based on the functional anatomical data, detecting positions of the hyper/hypometabolic cortical areas in a patient's anatomy;
- detecting a position of a stimulator;
- registering and/or referencing the position of the hyper/hypometabolic cortical areas with respect to the position of the stimulator; and
- determining an optimal positioning for the stimulator on the basis of relative positional information of the hyper/hypometabolic cortical areas and the stimulator.

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<sup>1</sup> "[I]mage" means the data that represents the spatial layout of anatomical or functional features of a patient (emphasis added).

<sup>2</sup> "Registration" means an alignment process by which two images are positioned coincident with each other so that corresponding points appear in the same position on the registered image.

None of the other cited references, including Howard, III ('685 and '588) and Hochman, cure the deficiencies of Kucharczyk. Neither Howard, III reference ('685 and '588) provide any disclosure or suggestion of navigationally registering functional anatomical patient data with structural anatomical patient data. As understood, Howard, III's ('685 and '588) only mention of navigation and/or stereotaxy is that conventional head frames are employed (see, e.g., col. 4, line 56 of Howard, III '588). Hochman is not properly combinable with Kucharczyk in that Hochman deals only with optical imaging of neuronal tissue, and as such, teaches away from that disclosed in Kucharczyk, as well as the claimed invention.

For at least these reasons, it is respectfully submitted that the rejection claim 1 and claims 2, 3 and 6-12 and 14 dependent therefrom should be withdrawn.

The rejection of claim 15 should be withdrawn because Kucharczyk, taken alone or in combination with Howard III ('685 and '588) and Hochman fails to disclose or fairly suggest each and every element recited in claim 1.

Claim 15 recites a method of stimulating hyper/hypometabolic cortical areas of patient that includes, *inter alia*,

- simulating a field distribution for a stimulation coil relative to a position of the stimulation coil;
- determining a stimulation area for the stimulation coil relative to a position of the coil;
- detecting the position of the stimulation coil and
- navigationally registering the field distribution of the stimulation coil.

First, the Office Action does not seem to make any reference to the claim 15 element of "navigationally registering the field distribution of the stimulation coil." For at least this reason, the rejection should be withdrawn.

Second, as best understood, the page 4 of the Office Action points to col. 13, lines 12-40 of Kucharczyk for a teaching of "stimulation a field distribution and determining stimulation areas." Col. 13, lines 12-40 disclose the following.

The operating theater may have the support for a patient comprising a sled arrangement on tracks between the magnetic resonance imaging apparatus and the magnetic guidance apparatus. The support may, for example, be moved along the tracks by a motor. The magnetic resonance imaging system may have a computer electronically associated therewith which receives data from the magnetic resonance imaging system to create an electronic image. The computer may also be electronically associated with the magnetic stereotaxis or magnetic guidance apparatus so that selected signals to the computer effect a signal from the computer to said magnetic stereotaxis or magnetic guidance apparatus to vary magnetic fields within the magnetic stereotaxis or magnetic guidance apparatus, which magnetic fields are able to guide a medical device. The computer may have the ability to overlay a prospective path for guidance of a medical device by the magnetic guidance apparatus onto said electronic image. The computer may also be electronically associated with the magnetic stereotaxis or magnetic guidance apparatus so that selected signals to the computer effect a signal from the computer to the magnetic guidance apparatus to vary magnetic fields within the magnetic guidance apparatus, which magnetic fields are able to guide a medical device. The magnetic resonance imaging system may have a computer electronically associated therewith which receives data from the magnetic resonance imaging system and operates upon the received data from the magnetic resonance imaging system to create an electronic image.

It is unclear how this passage from Kucharczyk discloses or fairly suggests "simulating a field distribution for a stimulation coil relative to a position of the stimulation coil; and determining a stimulation area for the stimulation coil relative to a position of the coil," as is recited in claim 15. For at least this additional reason, the rejection should be withdrawn.

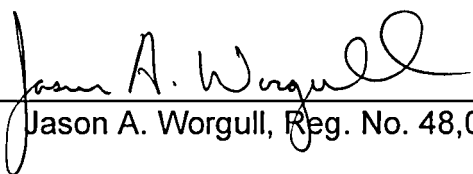
For at least these reasons, it is respectfully submitted that the rejection claim 15 should be withdrawn.

**Conclusion**

In view of the foregoing, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

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